

**Q1. WACP to calculate the sum of first n odd numbers (using while loop).**

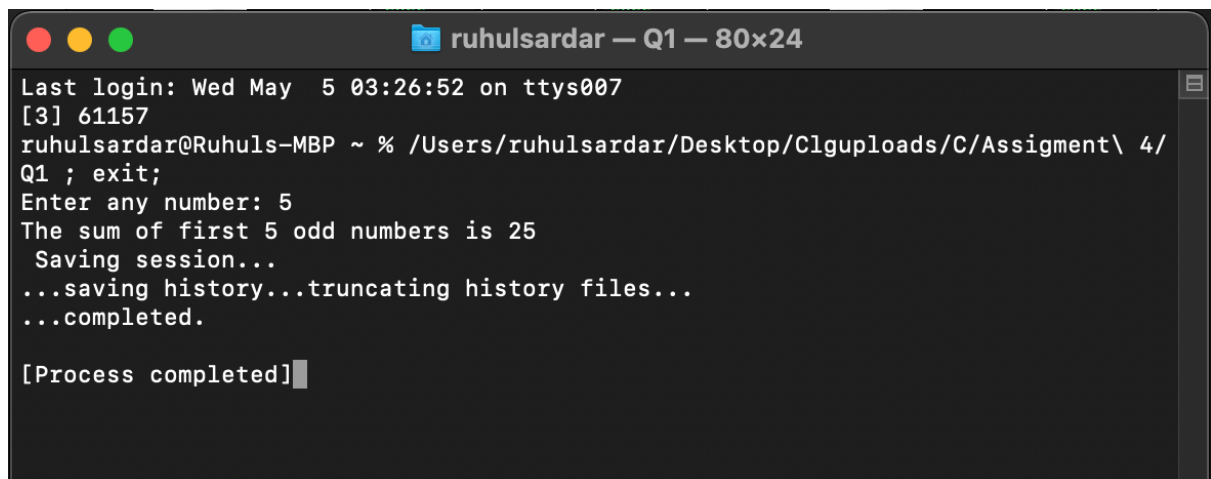
```
#include <stdio.h>

int main(){
int num, sum = 0, i = 1;
printf("Enter any number: ");
scanf("%d", &num);

while(i <= (num + (num - 1)) )
{
    if(i % 2 != 0)
    {
        sum = sum + i;
    }
    i++;
}

printf("The sum of first %d odd numbers is %d\n ", num, sum);
return 0;
}
```

**Output:**

A screenshot of a macOS terminal window titled "ruhulsardar — Q1 — 80x24". The terminal shows the execution of a C program. The user enters the number 5, and the program outputs "The sum of first 5 odd numbers is 25". The terminal also shows session saving and completion messages.

```
Last login: Wed May  5 03:26:52 on ttys007
[3] 61157
ruhulsardar@Ruhuls-MBP ~ % /Users/ruhulsardar/Desktop/Clguploads/C/Assigment\ 4/
Q1 ; exit;
Enter any number: 5
The sum of first 5 odd numbers is 25
Saving session...
...saving history...truncating history files...
...completed.

[Process completed]
```

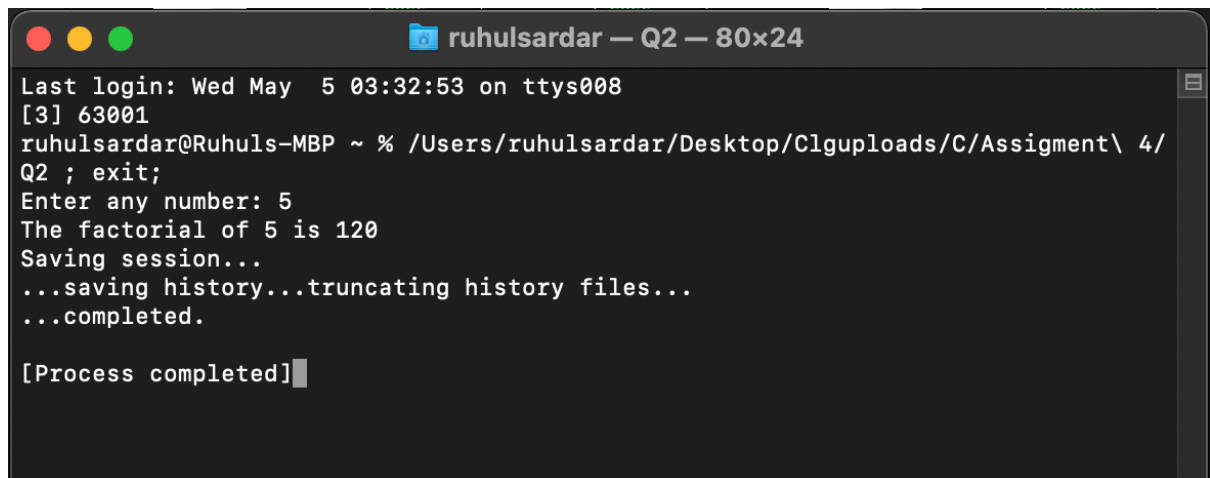
**Q2. WACP to calculate factorial of a number without using recursion (using do while loop).**

```
#include<stdio.h>

int main(){
    int num,i = 1 ,fact = 1;
    printf("Enter any number: ");
    scanf("%d", &num);
    do{
        fact = fact * i;
        i++;
    }while(i <= num);

    printf("The factorial of %d is %d\n", num, fact);
    return 0;
}
```

**Output:**

A screenshot of a terminal window titled "ruhulsardar — Q2 — 80x24". The terminal shows the following text: "Last login: Wed May 5 03:32:53 on ttys008", "[3] 63001", "ruhulsardar@Ruhuls-MBP ~ % /Users/ruhulsardar/Desktop/Clguploads/C/Assigment\ 4/Q2 ; exit;", "Enter any number: 5", "The factorial of 5 is 120", "Saving session...", "...saving history...truncating history files...", "...completed.", and "[Process completed]". The terminal has a dark background with light-colored text.

```
Last login: Wed May 5 03:32:53 on ttys008
[3] 63001
ruhulsardar@Ruhuls-MBP ~ % /Users/ruhulsardar/Desktop/Clguploads/C/Assigment\ 4/
Q2 ; exit;
Enter any number: 5
The factorial of 5 is 120
Saving session...
...saving history...truncating history files...
...completed.

[Process completed]
```

### Q3. WACP to print the Fibonacci series without using recursion (using for loop).

```
#include<stdio.h>
```

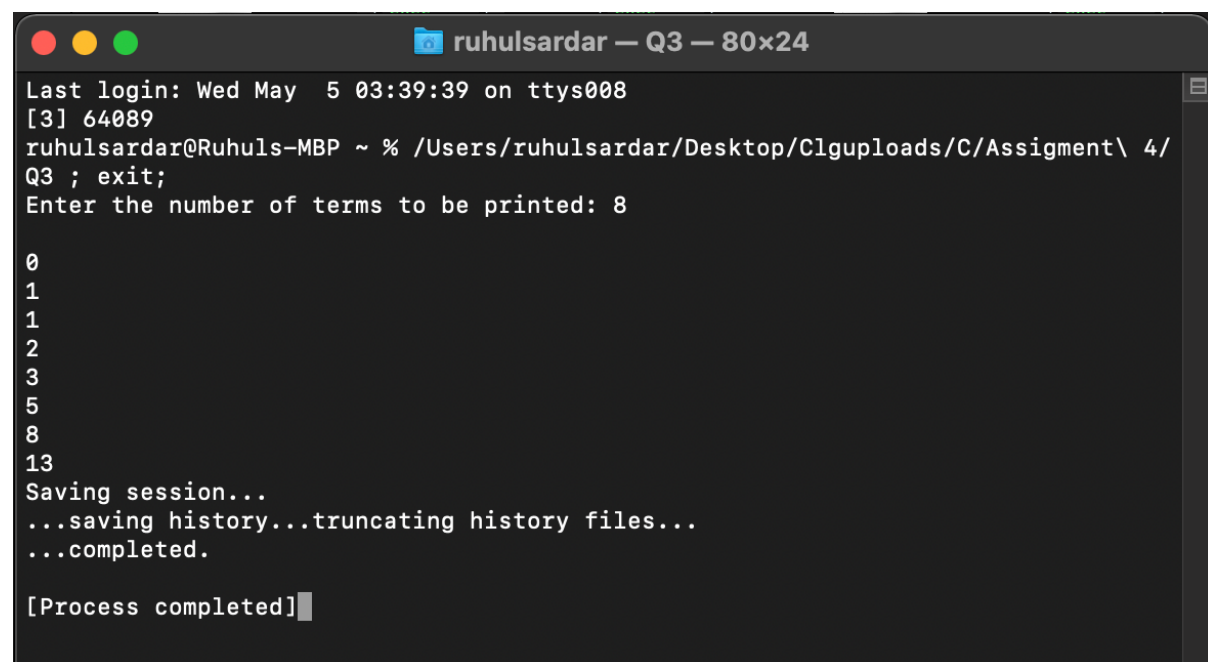
```
int main(){
    int n1 = 0, n2 = 1, n3, i, num;
    printf("Enter the number of terms to be printed: ");
    scanf("%d", &num);

    printf("\n%d\n%d\n", n1, n2);

    for(i = 3; i <= num ; i++)
    {
        n3 = n1 + n2;
        printf("%d\n", n3);
        n1 = n2;
        n2 = n3;
    }

    return 0;
}
```

#### Output:

A screenshot of a terminal window titled "ruhulsardar — Q3 — 80x24". The terminal shows the following text: "Last login: Wed May 5 03:39:39 on ttys008", "[3] 64089", "ruhulsardar@Ruhuls-MBP ~ % /Users/ruhulsardar/Desktop/Clguploads/C/Assigment\ 4/", "Q3 ; exit;", "Enter the number of terms to be printed: 8", followed by the Fibonacci sequence: "0", "1", "1", "2", "3", "5", "8", "13". Below the sequence, it says "Saving session...", "...saving history...truncating history files...", "...completed.", and "[Process completed]".

```
ruhulsardar — Q3 — 80x24
Last login: Wed May 5 03:39:39 on ttys008
[3] 64089
ruhulsardar@Ruhuls-MBP ~ % /Users/ruhulsardar/Desktop/Clguploads/C/Assigment\ 4/
Q3 ; exit;
Enter the number of terms to be printed: 8
0
1
1
2
3
5
8
13
Saving session...
...saving history...truncating history files...
...completed.
[Process completed]
```

#### Q4. WACP to find whether a number is Armstrong or not (using while and if statement).

```
#include<stdio.h>

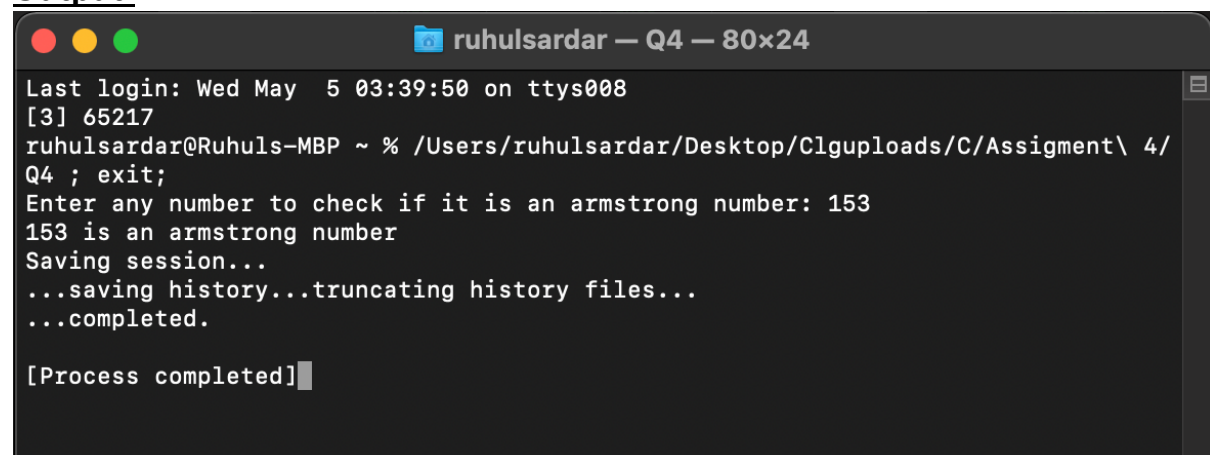
int main(){
    int num, temp, res = 0, rem;
    printf("Enter any number to check if it is an armstrong number: ");
    scanf("%d", &num);
    temp = num;

    while( temp != 0)
    {
        rem = temp % 10;
        res += rem * rem * rem;
        temp /= 10;
    }

    if( res == num )
    {
        printf("%d is an armstrong number\n", num);
    }
    else
    {
        printf("%d is not an armstrong number\n", num);
    }

    return 0;
}
```

#### Output:

A screenshot of a terminal window titled "ruhulsardar — Q4 — 80x24". The terminal shows the following text: "Last login: Wed May 5 03:39:50 on ttys008", "[3] 65217", "ruhulsardar@Ruhuls-MBP ~ % /Users/ruhulsardar/Desktop/Clguploads/C/Assigment\ 4/Q4 ; exit;", "Enter any number to check if it is an armstrong number: 153", "153 is an armstrong number", "Saving session...", "...saving history...truncating history files...", "...completed.", and "[Process completed]". The terminal has a dark background with light-colored text.

```
Last login: Wed May 5 03:39:50 on ttys008
[3] 65217
ruhulsardar@Ruhuls-MBP ~ % /Users/ruhulsardar/Desktop/Clguploads/C/Assigment\ 4/
Q4 ; exit;
Enter any number to check if it is an armstrong number: 153
153 is an armstrong number
Saving session...
...saving history...truncating history files...
...completed.

[Process completed]
```

**Q5. WACP to check whether a number is palindrome or not (using while and if statement).**

```
#include<stdio.h>

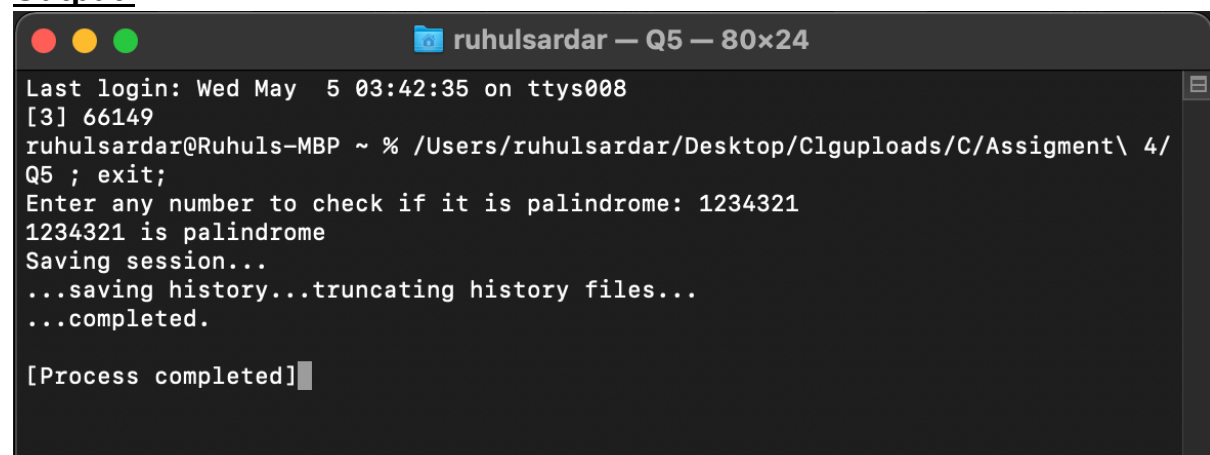
int main(){
    int num, temp, res = 0,rem;
    printf("Enter any number to check if it is palindrome: ");
    scanf("%d", &num);
    temp = num;

    while( temp != 0)
    {
        rem = temp % 10;
        res = (res * 10) + rem;
        temp /= 10;
    }

    if ( res == num)
    {
        printf("%d is palindrome\n", num);
    }
    else
    {
        printf("%d is not palindrome\n", num);
    }

    return 0;
}
```

**Output:**



```
Last login: Wed May  5 03:42:35 on ttys008
[3] 66149
ruhulsardar@Ruhuls-MBP ~ % /Users/ruhulsardar/Desktop/Clguploads/C/Assigment\ 4/
Q5 ; exit;
Enter any number to check if it is palindrome: 1234321
1234321 is palindrome
Saving session...
...saving history...truncating history files...
...completed.

[Process completed]
```

**Q6. WACP to find whether a number is prime or not (using for and if statements).**

```
#include <stdio.h>

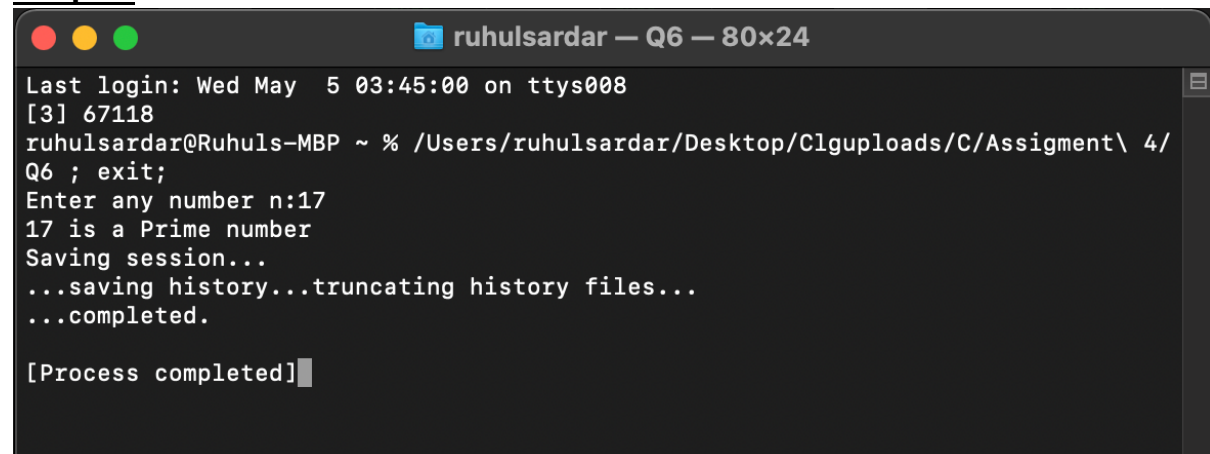
int main() {
    int n, i, c = 0;
    printf("Enter any number n:");
    scanf("%d", &n);

    for (i = 1; i <= n/2; i++)
    {
        if (n % i == 0)
        {
            c++;
        }
    }

    if (c == 1)
    {
        printf("%d is a Prime number\n", n);
    }
    else
    {
        printf("%d is not a Prime number\n", n);
    }

    return 0;
}
```

**Output:**



```
ruhulsardar — Q6 — 80x24
Last login: Wed May 5 03:45:00 on ttys008
[3] 67118
ruhulsardar@Ruhuls-MBP ~ % /Users/ruhulsardar/Desktop/Clguploads/C/Assigment\ 4/
Q6 ; exit;
Enter any number n:17
17 is a Prime number
Saving session...
...saving history...truncating history files...
...completed.

[Process completed]
```

**Q7. WACP to print the first n integer numbers divisible by 7 (using for and if statement).**

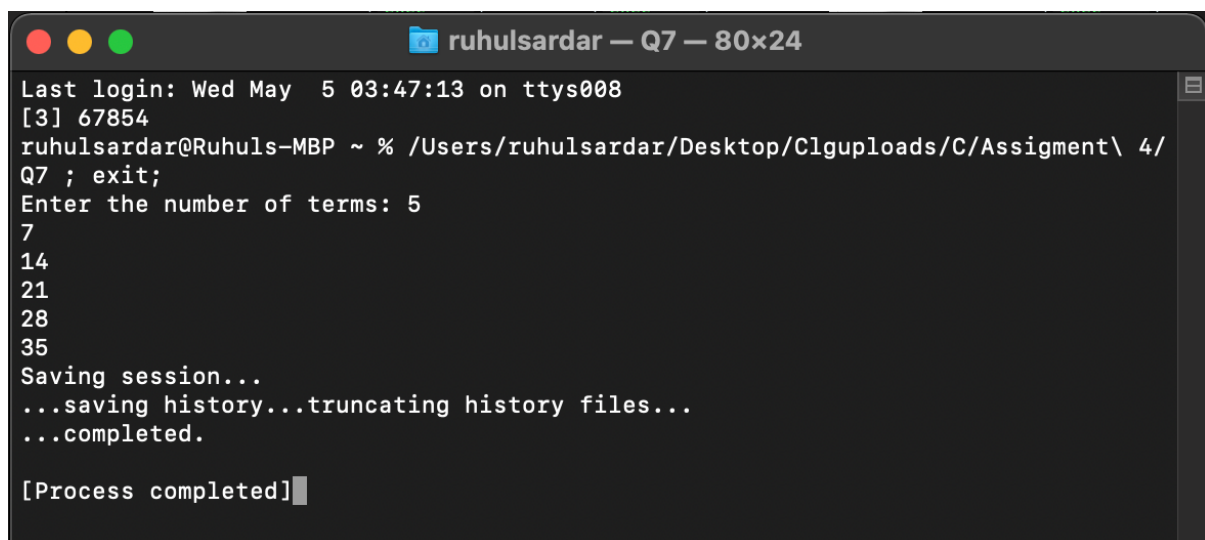
```
#include<stdio.h>

int main(){
    int num, i;
    printf("Enter the number of terms: ");
    scanf("%d", &num);

    for( i = 1; i <= (num * 7); i++ )
    {
        if(i % 7 == 0)
        {
            printf("%d\n", i);
        }
    }

    return 0;
}
```

**Output:**



```
ruhulsardar — Q7 — 80x24
Last login: Wed May  5 03:47:13 on ttys008
[3] 67854
ruhulsardar@Ruhuls-MBP ~ % /Users/ruhulsardar/Desktop/Clguploads/C/Assignment\ 4/
Q7 ; exit;
Enter the number of terms: 5
7
14
21
28
35
Saving session...
...saving history...truncating history files...
...completed.

[Process completed]
```

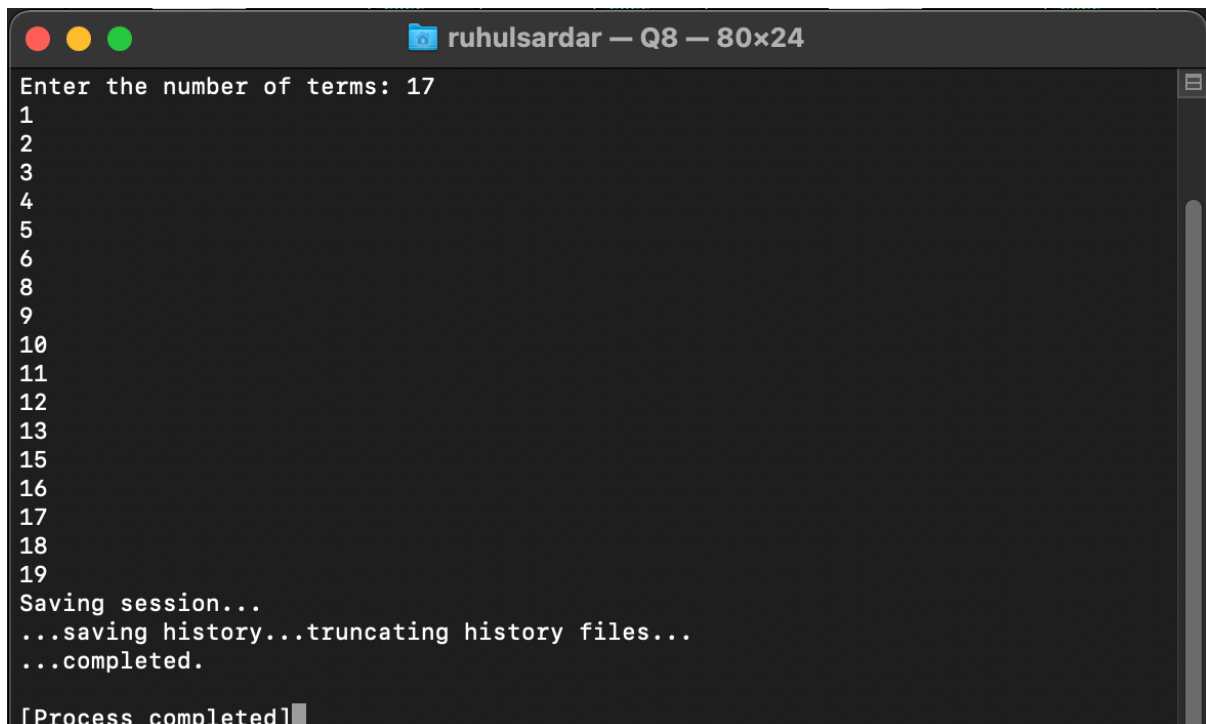
**Q8. WACP to print the first n integer numbers not divisible by 7 (using for and if statement).**

```
#include<stdio.h>
```

```
int main(){
    int num, i,temp ;
    printf("Enter the number of terms: ");
    scanf("%d", &num);
    temp = num / 7;
    for( i = 1; i <= num ; i++ )
    {
        if(i % 7 != 0)
        {
            printf("%d\n", i);
        }
    }
    for(int j = i ; j <= i + (temp - 1); j++)
    {
        printf("%d\n", j);
    }

    return 0;
}
```

**Output:**



```
Enter the number of terms: 17
1
2
3
4
5
6
8
9
10
11
12
13
15
16
17
18
19
Saving session...
...saving history...truncating history files...
...completed.
[Process completed]
```